

DOCUMENT RESUME

ED 336 647

CE 059 189

AUTHOR Maxson, Judith; Hair, Billy
TITLE Managing Diversity: A Key to Building a Quality Work Force. Research and Development Series No. 271.
INSTITUTION Ohio State Univ., Columbus. Center on Education and Training for Employment.
SPONS AGENCY National Alliance of Community and Technical Colleges, Columbus, OH.
PUB DATE 90
NOTE 42p.
AVAILABLE FROM Publications, Center on Education and Training for Employment, 1900 Kenny Road, Columbus, OH 43210-1090 (order no. RD 271: \$4.75; 10 copies: \$29.95).
PUB TYPE Collected Works - Conference Proceedings (021) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Basic Skills; Communication Skills; *Community Colleges; *Cultural Pluralism; Economic Climate; Education Work Relationship; Females; Immigrants; Interpersonal Competence; Job Skills; *Labor Force Development; *Literacy; Mathematics Skills; Minority Groups; Older Adults; *School Business Relationship; Teaching Methods; Technical Institutes; *Thinking Skills; Two Year Colleges

ABSTRACT

Economic changes create stress as U.S. businesses progress toward building a high quality work force for the year 2000. Skills such as critical literacy, communication, writing, math, and interpersonal competence are desired. Critical literacy involves the higher order thinking skills: the ability to analyze, evaluate, and synthesize. In addition, employees should be adaptable, trainable, and retrainable. Older people, women, handicapped persons, and minority and immigrant workers will comprise the work force. Changes will take place in both four-year colleges and technical colleges. Strategies for teaching critical literacy skills will require changes in curriculum. Teachers should be in tune with adult learners. In addition, higher education must prepare itself to serve diverse ethnic and cultural communities. Faculty need the support of the college's administration to change curriculum. Finally, community colleges must improve linkages with business and industry. Two-year colleges must make building a high quality work force part of their mission. Plans of action should be developed for those groups of people that will comprise the work force. (This document includes 29 references and 64 supplemental readings.) (NLA)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED336647

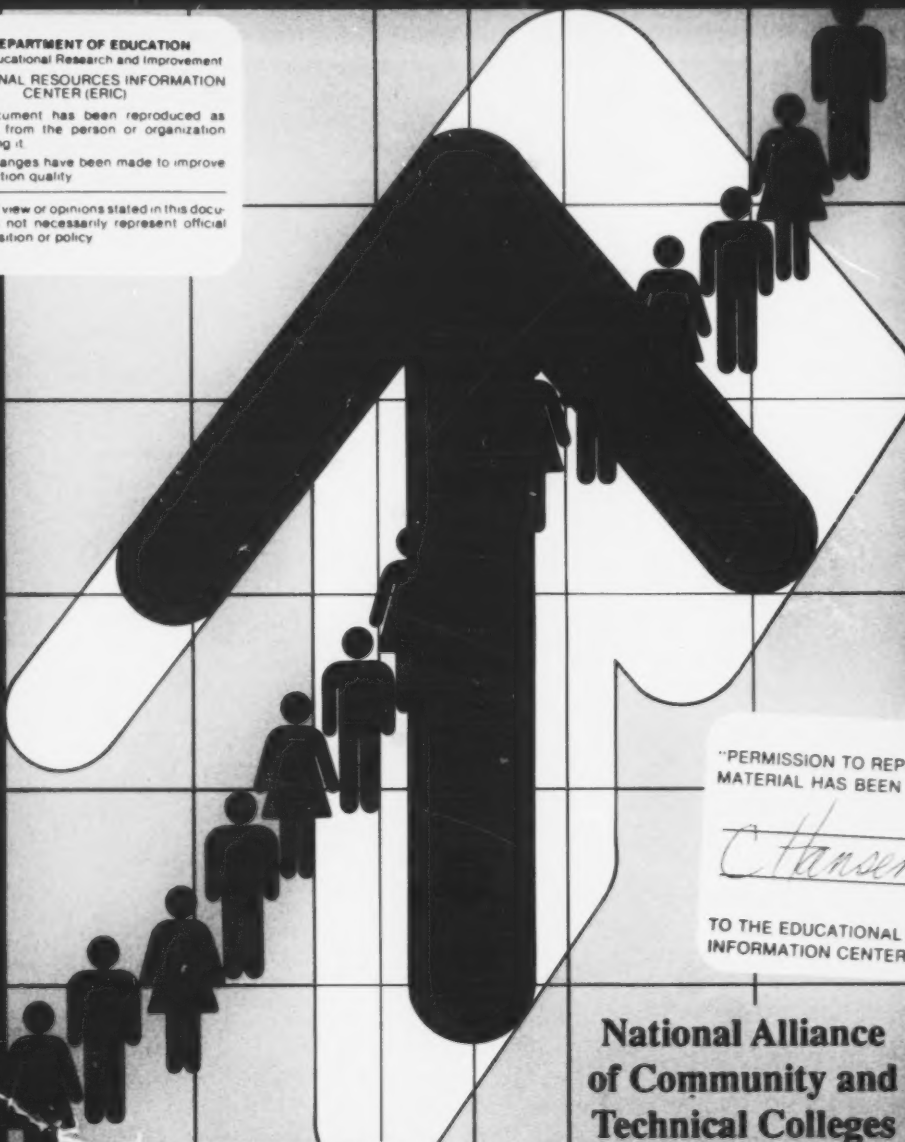
MANAGING DIVERSITY: A KEY TO BUILDING A QUALITY WORK FORCE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.

☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.



"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Chansen

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

**National Alliance
of Community and
Technical Colleges**

BEST COPY AVAILABLE

2

CE059189

National Alliance Mission Statement

The National Alliance of Community and Technical Colleges is a consortium of community, technical, and junior colleges from across the United States whose mission is to promote excellence in postsecondary vocational, technical, career, and occupational education.

The Alliance fulfills this mission by:

- sharing resources
- networking,
- finding solutions to common problems,
- providing common avenues for organizational development,
- conducting professional development activities, and
- securing financial resources.

Center Mission Statement

The mission of the Center on Education and Training for Employment is to facilitate the career and occupational preparation and advancement of youth and adults.

The Center fulfills its mission by conducting applied research and using the full range of resources of The Ohio State University in evaluation studies and by providing leadership development, technical assistance, and information services that pertain to—

- the delivery of education and training for work;
- the quality and outcomes of education and training for employment;
- the quality and nature of partnerships with education, business, industry, and labor;
- an opportunity for persons in at-risk situations to succeed in education, training, and work environments;
- the short- and long-range planning for education and training agencies; and
- approaches to enhance economic development and job creation.

MANAGING DIVERSITY:

A Key to Building a Quality Work Force

By
Judith Maxson
Billy Hair

The Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210-1090

1990

Contents

FOREWORD	v
WORK FORCE ISSUES	1
IMPLICATIONS FOR COMMUNITY AND TECHNICAL COLLEGES	7
EMPOWERING THE DIVERSE CONSTITUENTS OF THE TWO-YEAR COLLEGE	13
PLANS OF ACTION FOR BUILDING A QUALITY WORK FORCE	19
REFERENCES	27

Foreword

This is a time of sweeping technological change in the workplace. Employers, more than ever, are looking for employees who possess not only the traditional basic skills but also reasoning skills and the flexibility to adapt to changes they will encounter.

The National Alliance of Community and Technical Colleges, in conjunction with the Center on Education and Training for Employment, sponsored a series of three conferences on the general theme of Building a Quality Work Force. The first conference, held in San Antonio, Texas in March 1989, provided an overview of the issues. The second conference, held in Columbus, Ohio in September 1989, dealt with the issue of critical literacy. The third and final workshop, held in Boise, Idaho, focused on institutional strategies in building a quality work force. This document summarizes the content of those conferences with special attention to strategies for managing diversity in the workplace.

The National Alliance wishes to thank the individuals who presented papers or served as panelists at the three conferences. In alphabetical order, they are—

- Charles C. Bonwell, Professor of History, Missouri State University
- Marilyn Buckner, Manager for Human Resource Development, Coca Cola Corporation
- John Christman, Manager of Associate Development, Honda of America
- Elaine Dabelko, Hocking College
- Floyd E. Edwards, Regional Administrator, U.S. Department of Labor
- Billy Hair, President, Savannah Technical College
- Brad Harter, Hocking College
- Jennifer Jarratt, Vice-President, J.F. Coates, Inc.
- John H. Keiser, President, Boise State University

- William B. Kline, Manager of Training and Development, GE Appliances
- John J. Light, President, Hocking College
- Ron Luce, Hocking College
- Andrea Lundsford, Professor of English, The Ohio State University
- Judith Maxson, Vice-President, Hocking College
- Stephen Mitchell, President, St. Philip's College
- Joseph L. Parkinson, Chairman of the Board and Chief Executive Office,
Micron Technologies, Inc.
- Deni Naffziger, Hocking College
- Claudette Stevens, Hocking College

The Center wishes to thank the membership of the Alliance for their leadership in addressing issues of primary importance to the postsecondary education of our nation's youth and to the role of community and technical colleges in preparing our youth for work in the 21st century.

Appreciation is also extended to Center staff who served under the direction of Dr. Mark Newton, Associate Director at the Center and Director of the National Alliance. They include Ms. Laurian Miguel and Ms. Bettina Lankard, who provided technical and logistical support; Ms. Debra Weaver and Ms. Erma Brobst, who provided typing support; and Ms. Paula Kurth, who provided editorial assistance.

Ray D. Ryan, Executive Director
Center on Education and Training
for Employment
The Ohio State University

Work Force Issues

U.S. business and industry is under extreme pressure today. Historically unprecedented changes in the economy, the job market, and the work force create continued stress as we progress toward the year 2000. International competition, deregulation/mergers, maturation of markets, technological advances, joint ventures, governmental support, monetary exchanges, and time are some of the external pressures affecting American employers today. These pressures are exacerbated by internal, organizational factors such as financial/equity growth, international expansion, product diversification, technology utilization, labor relations, human relations complexity, management style, and delayering/down-sizing (Kline 1989). All of these factors are further complicated by the information explosion we are currently experiencing and to which we foresee no end. Today, more knowledge is added in a 24-hour period than was added in the entire seventeenth century. U.S. citizens, as a result of these factors, will change jobs at least four times and careers two times (Buckner 1989).

In the past, the U.S. economy was isolationist and self-sufficient. Today, however, the United States must recognize and understand that the U.S. economy cannot stand alone. The country's only recourse lies in global competitiveness and productivity, and the job market and work force must be addressed in this context (Edwards 1989).

Mitchell (1989) states that the work force of the year 2000 is largely in place. The nature of the work required by this work force, however, will change. Although 39 percent of the jobs today require low or non-skill levels, by the year 2000, less than 25 percent of the jobs will be filled by low or non-skilled workers. In fact, states Mitchell, the jobs that today require only a moderate level of skills will become the low-skill jobs of the year 2000.

Needed Skills and Abilities

These current and foreseen pressures have had an impact on the qualities business and industry desires in its employees. Critical literacy, and communication, writing, math, and interpersonal skills are a few of the abilities desired (Kline 1989). Most of these terms are familiar to us. The term "critical literacy," however, warrants some discussion.

Critical literacy, a relatively new term, combines the concepts of critical thinking and communications. More specifically, critical literacy is a means for empowering students with the ability to—

- distinguish important from unimportant details,
- analyze and synthesize information rather than just memorize,
- distinguish fact from opinion,
- organize ideas into a logical order,
- solve problems,
- form independent judgments, and
- use clear and appropriate language to report the results of their critical thinking process (Maxson 1989).

Bonwell (1989) defines critical literacy as being the higher order thinking skills, that is, the ability to analyze, evaluate, and synthesize. Lundsford discusses the meaning of the term "literacy" in a more general manner. One theory identifies literacy as a causal agent that is necessary for change to occur. Another view uses the term literacy to mean cultural literacy or "being cultured." A third definition associates literacy with economic progress, social mobility, and cognitive development. In third world countries, literacy is viewed as a liberatory power. In all cases, though, literacy is viewed as transformative (Lundsford 1989).

Who Will Comprise the Work Force?

Certainly, much of the work force that will be employed in 2000 is in place now. Mitchell (1989) offers some sobering facts that reflect on the qualities of today's work force: 70 percent of the dictated correspondence must be retyped at least once because of grammatical errors; one-half of the managers and supervisors cannot write an error-free paragraph; one-half of the skilled workers cannot compute fractions and decimals; two-thirds of the current workers are unpromotable; and, on a recent test given by New York Bell, 85 percent of the applicants failed the basic skills test (only 3,000 of 23,000 applicants passed the test). Add to this the fact that, according to Edwards (1989), there are now 23 million functionally illiterate adults and over 40 million more who are borderline illiterate.

Edwards (1989) offers insights into the composition of the future work force. First, a larger than ever part of the work force will be composed of older workers: the baby boom is over and another one is not anticipated. Second, the number of women who enter the work force will peak and then stabilize by the year 2000. Third, the number of handicapped, minority, and immigrant workers will increase. In fact, it is projected that only 20 percent of all jobs will be filled by native-born, white, American males. Hair (1990) foresees an increasing number of immigrants and women entering the work force.

Jarratt (1989) cites statistics that indicate that, in the future, entry-level workers will consist primarily of young immigrants--those who, typically, are poorly educated and possess few or no skills. This shift is a result of two factors: the projected declining population and the trend of current baby boomers to continually pursue more education. As ethnic groups become more secure in the work force, they will seek technical training, which must be provided to ensure productivity. The work force of the year 2000 will also include other underutilized workers who need education, re-education, rehabilitation, and/or training. These new workers will be disabled persons, illiterate persons, former drug and alcohol abusers, antisocial persons, ex-offenders, illegal aliens, persons with no marketable skills, persons who want time off, part-time workers seeking full-time work, talented misfits, and

retirees. The fact that women will comprise two-thirds of work force entrants at various levels in the early 21st century is an additional trend that must be considered as one that will shape the quality of the U.S. work force.

Mitchell (1989) states that the average age of workers will increase 11 percent by the year 2000. The native white males in the work force will decrease by 60 percent. There will be an increase of immigrant and minority workers; these are groups which, at the present time, have lower skill levels. And, 75 percent of the work force of 2000 is already working but needs to upgrade skills. Add to this the fact that, currently, those who are illiterate are unlikely to be employable. Future jobs, many of which will be in the service sector, are projected to require higher levels of literacy (Edwards 1989). A tremendous increase in small businesses and entrepreneurial ventures is also projected (Buckner 1989). These ventures will also require literate, thinking individuals.

What, then, do educators and employers view as important abilities, skills, and attitudes needed to function in the workplace? Education and business each offer unique perspectives on this issue.

Issues relating to the work force are viewed differently, depending on the vantage point of the individual speaking. Education and business representatives may hold different priorities or rank the same set differently. This chapter has captured at least a part of what these two segments of our society view as important work force issues.

Education's Perspective

Recently, educators have perceived a demand from the public that critical thinking skills should be taught in the classroom. Teachers, however, say they are being asked to teach skills they do not understand. They have not experienced courses that emphasize thinking skills rather than content nor have they had adequate role models in the past to emulate. Other barriers to the teaching of critical thinking skills are cited as being a lack of administrative support and lack of consensus as to how such skills can best be taught (Bonwell 1989).

Educators at the postsecondary level are also aware that they must, in many cases, teach basic skills. The difficulty that arises is that many of the individuals who still need to acquire basic skills are those who have not been able to acquire them through traditional teaching techniques.

A third problem that postsecondary educators are finding they need to address is that of workplace behaviors. How do people who are entering the U.S. work force for the first time know what will be expected of them? What is the best method to inculcate workplace ethics?

Industry's Perspective

According to Kline (1990), employers want a competitive edge in the marketplace. This can be gained by having (1) a unique product or service, (2) a superior quality of product, or (3) a cost/price

advantage. Employees are a major factor in gaining this competitive edge. Therefore, employers want employees who have—

- fundamental grounding in basic skills (communication and computation),
- positive attitudes and orientation toward work,
- sound study habits and retention capabilities, and
- specialized application of basic skills (vocational, technical, scientific, and managerial).

If we examine more closely the basic skills that employers want employees to have in today's workplace, we see that they include oral communication, mathematics, statistical process control, interpersonal skills, listening, negotiation, team work, employee involvement, critical thinking, and problem solving. Another way of breaking out these skills is as follows:

- Learning to learn
- Three "Rs" (reading, writing, computation)
- Communication (listening as well as speaking)
- Creative thinking and problem solving
- Self-esteem, goal setting, and personal and career development
- Interpersonal interactions, negotiation, and teamwork
- Organizational effectiveness and leadership (Kline 1990)

Although employers still want to hire individuals who are already skilled and matched to the job and those who have special skills required for new initiatives, they also want those who are adaptable and able to be trained. With the seven skills listed above, employees possess the flexibility that is needed to be trained for multiple jobs and to be retrained and, thus, retained during times of change. This, according to Kline (1990), is very important to employers.

Christman (1989) echoes some of Kline's (1990) views when he states that businesses really want people who can read, perform math, handle conflict in nonphysical but assertive ways, as well as confirm and clarify what is being communicated. In addition, business wants and must have, for international and technological advancement, what Christman calls the more critical skill: the ability to learn. Building a quality work force, according to Christman, is building a more critically literate work force. Parkinson (1990) finds that, for the company he is employed by, the preferred attributes of employees are career and goal orientation; good math, logic, and communication skills; problem solving and creative thinking skills; positive work ethic and pride in workmanship; the ability to cope with continuous change; flexibility in work hours; and a team orientation. In addition, this company believes that employee stability is the main competitive advantage; people who are career oriented are preferable to those who are not. Each person who is hired must have a career plan.

Buckner (1989) believes that the problems of preparing a quality work force can be corrected by changes in education. First, Buckner states, teachers are not in tune with adult learners. Adult learners need to know how information will be used; they do not want to learn by rote. Buckner suggests that teachers look at every course and determine its relevancy for current jobs as well as for the future. In preparation for teaching this type of class, all teachers should complete internships in settings where graduates work every five years as well as be members of community and professional associations.

Another help in ensuring relevancy in the classroom would be the exchange of executives and teachers or team teaching (one educator and one business person).

Buchner's second suggestion for improving the work force is to alter the curriculum to include the following:

- Interviews with people in the field so that students would learn more about the field they plan to enter
- A required career exploration course to teach students about the process of career choice and the issues related to career choice because they will change careers at least twice in their lifetimes
- Skills needed to perform in the workplace, especially interpersonal relationship skills such as negotiation, influence, listening, and team-building
- Relevance or survival learning, including instruction in the basic language and culture of various countries
- A "hands on" component which includes time on the job
- Innovative teaching methods, such as accelerated learning, optimum learning, and peak performance principles

Buckner's third suggestion is that educators create a positive environment for self-directed learning. Ways to do this include treating people as adults, using materials relevant to the career field, and testing that is relevant to performance in the career.

Implications for Community and Technical Colleges

Although higher education, in a conventional format, will impact only 25 percent of those in the work force in the year 2000, the role of the community college should not be underestimated. To reach the remaining 75 percent of the work force will require extraordinary changes in our education institutions, including the community college (Mitchell 1989).

Curriculum

Many individuals in today's work force lack the basic academic skills of math, reading, and writing. In the past, employers frequently paid "lip service" to these skills but, in actuality, an individual could succeed through hard physical work (Beckwith et al.).

Although individuals should have learned these skills before college and thus, colleges may not view the teaching of basic skills as part of their mission, this issue must be addressed. Therefore, instructors must adopt new curriculum and adapt to new audiences. Administrators must support, in tangible ways, the changes occurring in the classrooms as a result of changes in the work force.

Critical literacy is another area that demands a rethinking of postsecondary curriculum. Critical literacy has been defined as "... the active, sustained consideration of received information using certain evaluative dispositions, such as analyzing arguments, entertaining new possibilities, and understanding assumptions and biases underlying particular positions and interpretations" (Laughlin 1990, p. 1).

The philosophy held by Hocking College, located in Nelsonville, Ohio, is that course content is transitory (Dabelko, Stevens, Harter, Naffziger, and Luce 1989). The administration and faculty perceive that what individuals need to survive in the workplace are critical thinking skills; these skills will outlast any content that could be taught. Therefore, they are committed to helping students learn to think, analyze, criticize, question, problem solve, and make decisions.

In implementing the teaching of critical thinking skills, Hocking believes that class size and lecture time must be reduced and the use of discussion, split-page journals, and essays that require critical thinking must be increased. Six actions are considered important in implementing a critical literacy curriculum. First, the view that knowledge is more than a collection of facts must be reinforced. Second, class time must be reallocated. Third, faculty must undertake reconsideration of content. Fourth, the reading materials must engage students. Fifth, classroom activities must be

reconstructed. Sixth, the questions used in class and on tests must be redesigned to promote critical thinking.

The overall strategy used at Hocking in implementing a critical literacy curriculum was to involve all departments in its implementation. First, a group comprised of a representative from each department was sent to an external workshop on critical literacy. This group constituted the Critical Literacy Team. When these individuals returned to campus, they planned an on-campus autumn faculty workshop of two and one-half days. The workshop was carefully designed to provide practical information that could be applied immediately. During two follow-up sessions, one in Winter Quarter of 1989 and another in Winter Quarter 1990, the faculty used mini-sessions to share information on how they were applying critical literacy in the classroom. A quarterly newsletter was published by the Critical Literacy Team during the two-year project.

Hocking attributes the success of the project to grass-roots participation by a faculty member in each department, the commitment of the Critical Literacy Team members, faculty realization of the importance of critical literacy to student and worker success, and the understanding that all faculty have a common interest in teaching and learning and that teaching critical literacy is good instruction (Dabelko, Stevens, Harter, Naffziger, and Luce 1989).

Another strategy used to teach critical thinking can be employed within a single class, rather than infused (and, thus, reinforced) across the entire curriculum. It involves students writing four essays. For the first essay, each student writes on a topic about which they feel they have some expertise. For the second essay, after a class discussion of the topic, each student must define "expertise." After writing this second essay, the class again discusses the topic and notes are made on the chalkboard. The third essay involves each student first selecting and then interviewing someone he/she believes is an expert on some topic and then writing about the person's expertise. In the fourth and final essay, students write about the relationships between teacher/expert and student/layperson (Laughlin 1990).

Teaching critical literacy is good instruction because it challenges students. Teachers have often taken on too much of the effort which real learning demands by reading, rereading, analyzing, outlining, and synthesizing the materials for our students. We have relieved students of these opportunities to grow. The assumption that underlies critical literacy is that teachers already have the enthusiasm and ability to learn; providing students with opportunities to develop these skills becomes the challenge (Maxson 1989).

Demographics

The racial and ethnic composition of the U.S. population is changing. Joel Kotkin, author of *The Third Century*, states

By the year 2000, Caucasians will no longer be the predominant ethnic group in the United States. If the U.S. is to continue to prosper, it must acknowledge the wide ethnic and cultural diversity of both this country's population and the world and draw more heavily from the skills and knowledge of the populace. (Friedel 1989, p. 4)

The birthrate decline in the United States has occurred primarily among middle class Caucasians and, in this decade, a large number of Caucasian women will leave their child-bearing years. By 2010, one-third of all Americans will be African-American, Hispanic, or Asian American. And much of the projected 41 million increase in population will come from immigration (Friedel, September 1989).

Jones and Watson (1990) agree that the labor force composition will, like that of higher education, change.

Only 10 percent of the growth in the labor force will consist of the demographic group that has been the traditional core of both the labor market and colleges and universities white males. The majority of the growth in the labor force will emerge from the same demographic groups who constitute high-risk students, that is, disadvantaged populations, African-Americans, Hispanics, females, and older people. (Jones and Watson 1990, p. 28)

It is obvious that higher education must prepare itself to better serve these populations. Community colleges can do so by

- being aware of and sensitive to the populations served,
- defining and implementing fair decision-making processes, and
- composing and then using advisory committees made up of the ethnic and cultural communities served by the community college (Hsu 1990).

Administration

Faculty cannot change curriculum without the support of the college's administration. Bonwell (1989) highlights the importance of administrative support in the implementation of a critical literacy curriculum. One method administrator's can use involves the importance of faculty "ownership" of the curriculum. Suggestions include the following:

- The faculty should participate in defining critical literacy and develop a definition by consensus.
- Faculty should be provided avenues for mentoring and sharing information with each other.
- A trainer should be brought in to facilitate faculty obtaining expertise in critical literacy.
- The faculty should develop the process to be used to implement critical thinking curriculum within the current curriculum.

This method is thought to avoid the situation in which faculty feel overwhelmed, underprepared, and unsupported.

Administrator attitudes toward faculty are important. It is, after all, people—not systems or technology—that make an enterprise work. Other institutional or college strategies that can be implemented to build a better work force are to--

- balance centralized and decentralized decision making;
- tie reward systems to productivity;
- develop new ways to hire and utilize immigrants, ethnic groups, and women; and
- develop alternate certification in all areas to make up for the shortage of doctorally prepared faculty (Keiser 1990).

Light (1989) cautions that managers in community colleges must develop new styles to respond to diversity and the changing work force demographics. For example, older workers, who are dependable and on time but who may want time off to spend with grandchildren, require that their managers learn a new management style. Managers will also be faced with supervising home workers and more part-time workers. The greater diversity that will be found in the work force will require that colleges learn to deal with individuals from different ethnic backgrounds. Colleges will need to accommodate, more than ever before, workers who range from the illiterate to the college graduate. Disabled workers will require training to be productive and effective.

Colleges will need to be more responsive to the needs of business and industry. Education institutions are slow to change; the response time must shorten for them just as it has in the work world (Light 1989).

Some suggestions that community colleges can follow in contributing to building a quality work force include—

- conducting institutional and individual gap analysis,
- using assessment instruments to determine individual differences,
- reexamining and reorganizing the institution annually,
- adding and deleting programs as a result of effective environmental scanning,
- offering change training classes to managers and employees,
- developing true partnerships with business and industry, and
- developing international programs that broaden horizons of students and employees (Light 1989).

Community College Linkages with Business and Industry

The two-year college can do more than prepare individuals for their first jobs and update their skills for subsequent positions. These education institutions can also help business and industry stay current. Business and industry in Wisconsin look for the following characteristics:

- Practical content
- Knowledgeable instructors
- Timely course offerings
- Cost-effectiveness (Gilbertson et al 1989)

Pima Community College (PCC) in Tucson has developed an education and training consortium as well as an environmental technical training center. The consortium provides customized technical training for area business and industry. The environmental technical training center provides technical seminars and contract training across the state. These are just a few of the college-business programs that links PCC with the business community (Hines 1990).

According to Palmer (1990), community colleges can offer a wide range of services. Palmer breaks the services into educational and non-instructional.

Educational services are generally of three types: courses that already exist and may be offered to the business client "as is" (standardized); courses that already exist and may be offered to the business client with some modifications (individualized); and courses that must be created to meet the unique needs of a specific business client (customized). The content of the courses may range from vocational skills to basic skills to ESL to liberal arts to science, and everything in between.

Community colleges can provide many non-instructional services. Palmer (1990) discusses assessment, grantsmanship, technology transfer and research, and consulting. Assessment can involve testing to determine their basic skills abilities before enrolling in company-sponsored courses. Assessment can also be used to screen job applicants. Community colleges can also help companies compete for state or federal contracts. Community colleges can be instrumental in conducting impact studies, surveys, and other forms of research for businesses. Some community colleges set aside space for office equipment vendors to use in displaying and demonstrating new products. Community College consultations with small businesses can help lower their traditionally high failure rate. These are but a few of the ways a community college can link with business to not only provide a quality work force but to also become a key actor in economic development, thus ensuring its own vitality.

Strategies for Business and Industry
Collaboration with Education

Business and industry are in a position to affect the continuing education of the work force. Technological change is a constant reality of the workplace and, as we have previously discussed, any business or industry can survive only as long as it maintains a competitive edge.

Education is a competitive advantage and must be in place if we are to meet the challenges of increasing global competition, shifting U.S. demographics, shifting U.S. economic base, and increasing work force skill requirements. According to Kline (1990), "an interactive model of postsecondary education intervention, based on partnerships with business/industry and communities, is required for maintaining and expanding a quality work force that is responsive to the leadership and technological changes of global competition."

The best strategy, according to Kline (1990), is one that provides for collaboration between business, industry, and education by building partnerships, alliances, and linkages between them. From the business/industry perspective, these relationships must--

- be a good strategic and/or operational fit,
- provide high quality, low-cost programs,
- consist of customized and application-oriented education,
- involve the sharing of resource requirements,
- serve as a pipeline of human resource talent, and
- enhance their image in the community.

Business and industry are not the only recipients of benefits from such alliances. The interactive approach is beneficial to postsecondary education by—

- expanding its mission,
- meeting demographic shifts,
- increasing revenues,
- sharing equipment and facilities,
- exchanging faculty,
- enhancing their image in the community, and
- expanding the role of education in economic development (Kline 1990).

If these partnerships are to work, they must include mutual consultation; both parties must work together to determine the problems to be solved and the best way to solve them. Both partners must share resources and not lose track of the ultimate outcome of the partnership: a quality work force.

Empowering the Diverse Constituents of the Two-Year College

Community, technical, and junior colleges are in a unique and advantageous position to assist in the development of a quality work force. The first and foremost responsibility of the two-year college is to recognize that it is not only desirable but essential that building a quality work force become a part of its mission.

Mission statements and philosophy and purpose statements must be re-examined to ensure that everyone--from the board of directors and president to the newest faculty member--understands the need to re-examine both curriculum content and teaching techniques. Building the skills and knowledge of the worker of tomorrow must clearly reflect that the development of tomorrow's worker is an ongoing task.

Global competition requires improvement in productivity and quality while decreasing costs and expanding markets. Although large companies can support their own in-house training staff, small- and medium-sized firms cannot. Entrepreneurial ventures, especially new ones, are also frequently able to benefit from the expertise housed in community colleges. Worker-ownership of a business may create the need for new skills (Employer Specific Training Program . . . 1990).

This paper will discuss some of the challenges facing the two-year college and suggest ways to meet those challenges.

Constituencies of the Two-Year College

The composition of the U.S. work force is changing to reflect changes occurring in the population and economy. Minority groups have, traditionally, been a constituency of the two-year college. Women and new immigrants have also been reflected in enrollment patterns. Older workers have been served both on campuses and at work sites. As the work force ages and as the economy and technology advance, the two-year college will continue to play a major role in the initial preparation and ensuing update of all of these constituencies: women, new immigrants, minorities, and older workers.

Women

More and more women are entering the work force. As the total number of women in the work force continues to increase dramatically, as widely predicted, the number of job categories impacted will also be greatly increased. The two-year college has always attracted a large female population,

so the foundation of involvement has already been formed. On this foundation, support systems need to be built. The two-year college needs to be the leader in role models for women. The college should carefully examine the make-up of its own faculty and staff to ensure leadership by example. Successful female alumni can be organized to provide guidance to the college administration. Curriculum should reflect the changing role of women in the work force. Leadership development and mentoring programs specifically designed for this population can be very effective.

The college also needs to work with the local public and private education feeder systems to ensure that all women entering the college have the same educational opportunities as their male counterparts. The college cannot successfully generate homogeneity of work place opportunity if the fundamental equality of opportunity for academic success is not present.

Special courses designed to bolster the networking skills of this population can be extremely beneficial. The ability and confidence to move freely in a corporate world once dominated and controlled by men can greatly assist the assimilation process.

Programs designed to teach the "politics" of American business would be beneficial to this group because they have long been denied access to the system where males learned this by apprenticeship and informal, work place mentoring. Women must understand how the standards of success in business are set and what type of evaluation systems, formal and informal, are used to measure adherence to these standards.

A more subtle, but extremely important, role the college can play in preparing women for tomorrow's work force is not what it does to or for women, but what it can do for the population into which women must be integrated. In this area, the college needs to ensure that the general population understands the value and role of women in the emerging work force. While this is certainly no easy task, the college that really wants to have a strong, positive impact on the development of the working woman will make this effort a high priority.

The true change agent in this process will be the well-trained and educated successful woman. While threatening to some, there is no better way to explode a myth than through empirical evidence.

Racial Minorities

Approximately 20 percent of two-year college students belong to minority populations (African-American, Hispanic, Asian, Native American, and non-resident alien) (Palmer 1987). The importance of the role of the two-year college in providing higher education for minorities is shown to be even more important when the following facts are considered:

Members of minorities who complete high school are more likely than white students to attend community colleges. These colleges enroll 55 percent of all Hispanic undergraduates, 57 percent of all Native American college students, 43 percent of all black students, and 42 percent of all Asian students who attend institutions of higher education in America. (Commission on the Future of Community Colleges 1988, p. 9)

Compare this information with that presented by Clowes, Hinkle, and Smart (1986). Of all students who graduated from high school in 1982, 34.1 percent enrolled in four-year colleges or universities, 19.9 percent enrolled in two-year colleges or technical institutes, and 10.1 percent enrolled in other vocational-technical institutes. Although one cannot directly compare the two sets of data, the inference is clear: 20 percent of all high school graduates are enrolled in community colleges, but the percentages of minority students in community colleges runs much higher (Kurth 1989).

It is necessary for administration, faculty, and staff members to set the stage for equal treatment of racial minorities, just as in the case of women and immigrants. This includes not only equality in the classroom and laboratories but also in social and cultural events. Equal treatment on the campus, however, is not enough. Relationships between campus and the surrounding community must be established that permit evaluation of recruitment practice and the cooperation of employers in assisting in the promotion of equal opportunity in hiring practices.

Immigrants

The number of immigrants entering the work force will continue to increase. These individuals must come to understand the U.S. workplace and its present and future requirements. Programs must be established that orient these students to what employers need in today's businesses and industries. Because many U.S. work force customs are different than those found in immigrants' countries of origin, it is unrealistic to assume that adherence to U.S. standards of employee excellence will be displayed automatically unless they are taught. One way colleges can impart work force customs is to establish courses or seminars that specifically focus on cultural and operational differences of U.S. businesses and industries.

There is another--and, perhaps, more subtle--step colleges should take in response to the immigrant explosion in the work force. It is to expose the non-immigrant students to the cultural differences of a global economy. This is very important because it is this group that must accept and, in many cases, initially guide new immigrant workers into today's work force. This implies the internationalization of the U.S. campus not only academically, but also culturally and socially. Colleges can join with the various ethnic groups and leaders in their communities to jointly plan and host events that increase cultural understanding.

Older Workers

As technological changes continue to be implemented in the workplace, two-year colleges will be serving more older workers who are updating or upgrading their skills. Colleges must understand that older students are a valuable resource, not just as part of enrollment figures, but as resources to assist in the development of a work force ethic in younger students. Colleges should use this group for mentoring and peer tutoring programs. The majority of these students have excellent work ethics and have had some success in the work force. Another technique would be to "pair" these older students with younger students through a formalized program of involvement that would include aspects other than the academic.

Academic Skill Requirements

Just as the composition of the work force is changing, so are the requirements. In the recent past, an individual could earn a living wage without having mastered many academic skills. The willingness to work hard and be dependable were the major requirements. Current technology has already eliminated low skill-high wage jobs and future technology will continue to do so. Two major areas to which the attention of two-year colleges have been drawn are basic skills and critical thinking.

Basic Skills

The most severe problem in today's work force is the basic math and English deficiency of new entrants. Although two-year colleges may not philosophically view this as their role, the faculty and staff must address this problem before any other effort can be successful in increasing the quality of the work force.

The colleges that will be most successful in this difficult arena will be those that are nontraditional in their approach. In the establishment of remedial programs, colleges must remember that these students have failed in the traditional educational environment. Exposure to failed techniques will simply exacerbate this problem.

One method that should be used is to inextricably tie basic skills education to a goal set by the individual student. The student must clearly understand that this basic skill education is not an end unto itself. Students must know that if they are to achieve the career goals to which they aspire, they must first develop better basic skills.

Another technique is to treat basic education enhancement as an integrated phenomenon and not as a separate, stand-alone entity. This accomplishes two very important things. First, it is nontraditional and also relates the "fun" parts of education to the elements that may not be viewed as being "fun." It should be a form of subliminal education. Second, it also reduces the stigma of basic education remediation. It does not force students to become segregated by academic standing. Research clearly indicates that fear of peer rejection is the most severe problem in getting students to enroll in basic education courses. Such courses should be cleverly disguised.

Critical Thinking

The issue of where and how critical thinking should be taught is framed in terms of the type of programmatic approach, namely, whether an infused or separate approach should be used. The separate approach involves a special course of study, whereas, in the infused approach, thinking skills are integrated into most courses and taught across the curriculum.

Both infused and separate approaches have their own special educational advantages. Separate programs—

- can maintain their identities and avoid being overwhelmed by curricular content,
- can explicitly expose the student to thinking skills as such, and
- can be evaluated independently of course content.

On the other hand, infused programs—

- do not require a separate course,
- teach intellectual skills in the applied context of a course, and
- reinforce the point that thinking skills are important throughout the curriculum.

Which of these approaches is most effective in teaching critical thinking? Experience and research indicate that thinking abilities remain limited unless faculty combine forces to cultivate thinking skills deliberately throughout the curriculum. However, there are realistic limitations on just how broad and deep the infusion of thinking across the curriculum can be. Faculty cannot really be expected to be experts in their discipline and in the teaching of thinking skills (Sternberg 1986). Specialists and at least one special course are also valuable. Therefore, the integration of both approaches becomes the most effective approach. The most important thing to remember in the development of thinking skills is that thinking is a performing art. Students learn these best by practice and application. Any successful approach must also give students the opportunity to practice both success and failure.

Technical Assistance Opportunities

The two-year college should not limit its efforts to responding to students who enroll in classes in the traditional manner. The two-year college can also provide services that can help companies remain up-to-date in terms of products, processes, and personnel. Assistance efforts can take many forms. A few examples appear below:

- *Human resource development*—tailoring education programs to meet the emerging human resource requirements of the new economy
- *Economic policy analysis and research*—providing objective information and new knowledge to public and private decision makers about an area's economy
- *Capacity building for economic development*—assisting a wide variety of community organizations in developing the capacity to participate more effectively in economic development
- *Technical assistance to apply existing knowledge to industry*—helping firms learn about and adopt effective management and engineering concepts

- Research to develop new knowledge—conducting basic and applied research to produce new knowledge that can result in new products and services or improved forms of production
- Technology transfer of newly developed knowledge to industry—purposefully helping firms to take advantage of state-of-the-art technology developed within the college
- Support for the development of new knowledge-based businesses—having the college take a direct role in promoting new enterprises that utilize knowledge developed within the college (SRI International 1986)

Summary

The two-year college can play an important role in preparing the work force and supporting economic development. With an increasingly diverse work force, however, two-year colleges must not assume that every student has had the same orientation to the workplace or will be received in the workplace in the same way. The two-year college must prepare all its students for the reality of the workplace.

The two-year college can also ensure that its students receive the same emphasis on basic skills and critical thinking as they do on other skills. These skills can be taught as separate subjects or infused across the curriculum. Basic skills and critical thinking skills are needed for the United States to compete in a global market.

The two-year college can also play an important role in providing direct assistance to business and industry. Whether in human resource development, research, or technical assistance activities, the two-year college has a role to play in the economic well-being of the United States.

A key point to remember about the college's role in preparing a quality work force and in economic development is that it must consider the lead time needed to produce a highly trained and educated worker. It must not only be on the leading edge of the technology but also must constantly ensure that the college delivery infrastructure is in place well in advance of the needs of the market place. This means that colleges must have a needs assessment system in constant operation to detect emerging trends well in advance of widespread use in the economy.

This document contains several plans of action that offer strategies by which community and technical colleges can respond to the needs of students and business/industry in preparing a quality work force.

Plans of Action for Building A Quality Work Force

Overall Objectives:

- To ensure that all of the various elements of a community are properly educated, trained, and assimilated into the work force
- To ensure that the community's work force remains compatible with the constantly changing requirements of business and industry

Methodology:

- Establish, for each specific worker group, a plan that will increase their education/skill levels.
- Establish a plan to increase the diversity of the work force through education and assimilation.

Evaluative Techniques:

- Annual assessment of community labor force to include both supply and demand by job classification and standard statistical demographic criteria

Evaluative Criteria:

- Should establish target goals by job classification and demographics and compare each annual assessment to determine progress towards reaching target goals

Building a Quality Work Force: Women

Objectives:

- To increase the educational skills of women in the work force
- To increase the employment levels of women in the work force

Methodology:

- Conduct an assessment of the education/skill levels and the employment levels of women in the local work force by job classification.
- Establish workshops/seminars for local business and industry to ensure their awareness of the availability of women to fulfill their employment needs.
- Establish workshops/seminars for women on the "network of business" to ensure they have the soft skills of success, as well as the hard skills.
- Establish workshops/seminars directed at the existing work force on reducing discrimination, both overt and subtle. These workshops/seminars should focus on assimilation techniques.
- Establish mentoring programs that pair women who are already successful in the work force with women who are entering the work force in a similar field.
- Celebrate the accomplishments of women both as employees of the college and as students. Nothing destroys myths faster than truth celebrated.
- Establish specific recruitment techniques to ensure increased enrollment of women in non-traditional programs of study. This will eliminate the most often used method of discrimination, which is that women are "not qualified" for various positions.

Evaluation Techniques:

- Compare annual assessments of the educational/skill and employment levels of women by job classification in the local work force.
- Compare annual enrollments of women in non-traditional programs.
- Compare annual promotions and/or hires of the number of women in management or leadership positions.

Evaluation Criteria:

- Number of women employed should increase by job classification.
- Enrollment of women in non-traditional programs of study should increase.
- Promotion levels of women should increase.
- Number of women initially hired into management or leadership positions should increase.

Building a Quality Work Force: Racial Minorities

Objectives:

- To increase the opportunities for minorities in the work force
- To reduce barriers that inhibit vertical and horizontal transferability within the work place

Methodology:

- Conduct an assessment of the local businesses and industries to determine the problems and barriers that are being encountered by racial minorities. (It is very important that both employers and employees of both the majority and minority races of the work force be included in this assessment. This assessment, if properly developed and administered, will likely reveal problems and barriers that are quite different from those with which most employers and institutions are familiar. This assessment could be offered by the institution as a service or as a fee-generating activity.)
- After identifying the types of problems and barriers, form a task force to develop workable solutions to each problem identified. (This will provide many opportunities for the institution to become a proactive change agent.)
- Provide widespread publicity for the results of the task force findings. (This is very important because, in most cases, the first step in the solution of a problem is to convince the constituent audience that a problem and a solution exists. If this is properly done, it makes all of the other interventions much more effective.)
- Improve the conditions of minorities in the institution itself. The institution must lead by example. (No institution will be effective in trying to improve the conditions for minorities in the community at-large if that institution has not first been proactive and affirmative in addressing its own employees' needs.)
- Establish employee sharing programs with the local business and industry community with particular emphasis on placing members of racial minorities in majority environments. (This will not only be valuable to the minority employee, but also will help remove barriers in the minds of the majority population.)
- Celebrate events that minorities hold dear. Provide a showcase to display minority employee talents. (It is vitally important, however, that the racial minority celebrations are held in the majority environment. If this is not carefully done, these events might actually make the problem more severe because the assimilation might become intracultural and not intercultural.)

- Establish separate programs or new parts of existing programs to address the needs of entering employers into the organization. (The focus here is prevention. If problems can be averted by exposing both the minority and majority employees to the differences and similarities of the various cultures, then the stage has been set. The individuals who are best at this technique are veteran employers who have changed their own attitudes and behaviors with respect to the interpersonal relationship between majority and minority populations.)
- Carefully review recruitment practices to ensure that recruiters, recruitment locations, and methodology are racially balanced.
- Develop courses that deal with various racial minority cultures and have academic advisors heavily promote these courses as electives in all programs.
- Develop dual mentor programs. (Ideally, the minority student or employee should have a mentor from both the majority and minority race. Mentoring programs with only one mentor, whether from the minority or majority race, will not be nearly as effective as a dual mentor program.)

Evaluation Techniques:

- Compare annual assessments of the educational/skill and employment levels of racial minorities in the local work force.
- Compare annual reviews of enrollment and retention rates of the minority populations with that of the majority population.
- Compare annually the number of minorities, promoted, and terminated.
- Compare annual enrollment of minorities by program area.
- Maintain records of any problems that are race related.

Evaluation Criteria:

- Employment levels of minorities in all categories should increase or, if they are already at proper levels, should not decrease.
- Enrollment of minority students should increase.
- Retention of minority students should increase.
- Promotion of minority employees should increase.
- Number of racially related problems or incidents should decrease.

Building a Quality Work Force: Immigrant Workers

Objective:

- To ensure that the immigrant worker is provided with the educational and training opportunities so that skill levels are consistent with the demands of the local employment needs of business, industry, and the community

Methodology:

- Conduct an assessment to determine the educational, skill, and language levels of the immigrant worker group in the local community.
- Once the number and educational levels of this worker group have been determined, the group that is currently marketable to business and industry should be made available by establishing industry and labor workshops/seminars.
- Establish specific language classes where appropriate. Stress ethnic language classes for the majority community groups, as well as English for the minority groups.
- Establish seminars on work force culture to ensure awareness of employer expectations of employee behavior and attitude.
- Establish seminars on ethnic cultures for business and industry to ensure that this employer group clearly understands the differences within this work group and how this can be an asset and not a liability. The theme for these workshop/seminars should be "strength through diversity."
- Have frequent "ethnic celebration" events on the campus. (This will not only positively impact the pride of this group, but also will educate other students and the community at large of the contributions made by this population.)
- Establish mentor/role model programs matching members from each ethnic group who have been successfully assimilated into the work force with other members from the same ethnic group who have not been fully assimilated.

Evaluative Techniques:

- Compare annual assessments of the worker group to determine--
 - educational/skill level improvements,
 - attitude changes in acceptance of these groups by business and industry, and
 - changes in language of both the minority and majority groups.

Evaluative Criteria:

- This worker group should have additional educational/skill levels.
- This worker group should have a higher employment rate.
- This worker group should be increasingly valued by the community for both its cultural and employment contributions.
- There should be an increased number of workers (both minority and majority) fluent in a second language.
- There should be an increased awareness and acceptance of the various ethnic populations.

Building Work Force Quality: Older Workers

Objective:

- To ensure that the older members of the work force are provided the opportunity for educational training and retraining so that their educational and skill levels are consistent with the demands of the local employers' needs of business, industry, and the community.

Methodology:

- Conduct an assessment of local employment needs for the next five years.
- Conduct an assessment of the availability of the older worker and the current educational/skill level of this employee group.
- Set up workshops/seminars for local business and industry to ensure their awareness of the aging population pool and the current level of their abilities and attitudes.
- Establish a job bank clearinghouse to match older workers with local needs of business and industry.
- Establish awareness workshops specifically aimed at the older worker to ensure their knowledge of changing work place requirements.
- Establish older-worker mentor programs.
- Establish seminars dealing with older worker issues.
- Sponsor older worker appreciation programs in conjunction with local industry.

Evaluative Techniques:

- Compare annual assessments of this worker group to determine--
 - educational/skill-level improvements, and
 - attitudinal changes in acceptance of this worker group by business and industry.

Evaluative Criteria:

- This worker group should have additional education skill levels.
- This worker group should have a higher employment rate.
- This worker group should be increasingly valued by the community for its employment contributions.

Building Work Force Quality: Basic Skills

Objective:

- To increase the basic educational levels of math and English of both the existing and new members of the work force

Methodology:

- Conduct an assessment of various industries in the local community to determine the present levels of English and math skills of the existing work force.
- Conduct an assessment of new applicants to the college to determine math and English skills of new students entering or applying to the college.
- Establish basic educational courses to be taught to existing workers. (These courses should not be structured in the traditional college format. If possible, learning styles of these students should be determined by using any of the widely available validated learning style instruments. The courses should then be structured to match the learning styles of these various groups. It also would be very helpful if local companies would provide incentives to these workers when they accomplish various improvements in their basic education skill levels. The key to this group is to celebrate their accomplishments.)

- For new students entering the colleges with basic skill deficiencies, use teaching methods to which this group will respond. (Learning styles are very important and should be used to match students with teaching techniques.)
- Integrate basic skills education across the curriculum wherever possible. (This will greatly reduce the attrition rate in these courses.)
- Conduct pre-developmental seminars and workshops to stress that basic education is not a goal, but preparation for the students to obtain a goal of their choice.
- Establish a direct link to the local feeder school system to ensure that the local school systems are aware of their performance in preparing students in the basic educational skills arena. College faculty can be placed "on loan" to these school systems to help them in developing both a curriculum and teaching methodology that will increase basic educational skills of their graduates.
- Establish seminars in which local business and industry representatives would stress to students the nature of today's jobs. Students need to understand that basic education skills are not "nice to have" but "necessary to have" in order to be successful in today's work force.
- Establish student tutoring programs. These are particularly effective with this student group. The understanding of peers is very important to the learning environment for basic skill development.

Evaluation Methodology:

- Compare math/English levels from annual assessments of existing work force.
- Compare math/English levels of entering students annually.
- Compare attrition rates in advanced courses due to basic skill deficiencies.
- Compare college drop-out rates where English/math goals were cause for academic failure.

Evaluation Criteria:

- Math/English levels of existing workers should increase.
- Math/English levels of existing students should increase.
- Fewer students should drop-out for basic skill deficiencies.
- Academic failure should decline as a reason for students dropping out of the college.

References

- Beckwith, Robert, et al. *Advice to the Private Sector. Report 3.* Illinois State Council on Vocational Education, Springfield, 8 March 1989. (ED 318 873)
- Bonwell, Charles C. "Practical Applications: Critical Literacy in Building a Quality Workforce." Paper read at the Building a Quality Work Force: Critical Literacy Conference, Columbus, Ohio, 24-26 September 1989.
- Buckner, Marilyn. "Building a Quality Work Force: The Private Sector Perspective." Paper read at the Building a Quality Work Force: An Overview Conference, San Antonio, Texas, 12-14 March 1989.
- Christman, John. "Industry Perspective on Building a Quality Workforce: Critical Literacy." Paper read at the Building a Quality Work Force: Critical Literacy Conference, Columbus, Ohio, 24-26 September 1989.
- Commission on the Future of Community Colleges. *Building Communities: A Vision for a New Century.* Washington, DC: American Association of Community and Junior Colleges, April 1988.
- Clowes, D.A.; Hinkle, D.E.; and Smart, J.C. "Enrollment Patterns in Postsecondary Education, 1961-82." *Journal of Higher Education*, 57 (2): 121-133.
- Dabelko, Elaine; Stevens, Claudette; Harter, Brad; Naffziger, Deni; and Luce, Ron. "Critical Literacy Project." Panel discussion at the Building a Quality Work Force: Critical Literacy Conference, Columbus, Ohio, 24-26 September 1989.
- Edwards, Floyd E. "Government Perspective on Building a Quality Work Force." Paper read at the Building a Quality Work Force: An Overview Conference, San Antonio, Texas, 12-14 March 1989.
- Employer Specific Training Program for Program Year 1988-89.* Annual Report to the Governor and Legislature. Albany: New York State Education Department, 1990.
- Friedel, Jan. *2020 Perfect Vision for the Next Century: An Environmental Scan.* Bettendorf, IA: Eastern Iowa Community College District, September 1989. (ED 319 451)

- Gilbertson, Alan, et al. *Linking Vocational Education to Business/Industry Training Needs. Final Report*. Menomonie, WI: Wisconsin University-Stout, Center for Vocational, Technical and Adult Education, 1989. (ED 321 084)
- Hair, Billy. "Work Ethics and Quality Work Habits." Paper read at the Building a Quality Work Force: Institutional Strategies Conference, Boise, Idaho, 10-13 March 1990.
- Hines, Thomas E. "Creative Alliances with the Business Community: Pima Community College." Paper presented at the Annual International Conference on Leadership Development of the League for Innovation in Community Colleges, "Leadership 2000" (2nd, San Francisco, CA, July 8-11, 1990). (ED 322 958)
- Hsu, Hilary. "The Multicultural Urban Community College: Conflict and Achievement." Paper presented at the Annual International Conference on Leadership Development of the League for Innovation in Community Colleges, "Leadership 2000" (2nd, San Francisco, CA, July 8-11, 1990). (ED 322 966)
- Jarratt, Jennifer. "Forces and Factors Shaping the Quality of the Work Force." Paper read at the Building a Quality Work Force: An Overview Conference, San Antonio, Texas, 12-14 March 1989.
- Jones, Dionne J.; Watson, Betty Collier. *High-Risk Students and Higher Education: Future Trends. ASHE-ERIC Higher Education Report No. 3*. Washington, DC: Association for the Study of Higher Education; ERIC Clearinghouse on Higher Education; George Washington University, School of Education and Human Development, 1990. (ED 321 726)
- Keiser, John H. "Institutional Strategies for Building a Quality Workforce." Paper read at the Building a Quality Work Force: Institutional Strategies Conference, Boise, Idaho, 10-13 March 1990.
- Kline, William B. "A Corporate Perspective on Building a Quality Work Force." Paper read at the Building a Quality Work Force: Institutional Strategies Conference, Boise, Idaho, 10-13 March 1990.
- Kurth, P.K. *Characteristics of Community College Students*. Unpublished graduate paper. Columbus: The Ohio State University, College of Education, June 1989.
- Laughlin, James S. "When Students Confront the Experts: Toward Critical Thinking in the Classroom." Paper presented at the Annual Meeting of the Conference on College Composition and Communication (41st, Chicago, IL, March 22-24, 1990). (ED 322 516)
- Light, John J. "Institutional Strategies for Building a Quality Work Force." Paper read at the Building a Quality Work Force: Institutional Strategies Conference, Boise, Idaho, 10-13, March 1990.
- Lundsford, Andrea. "Critical Literacy and the Assessment of Student Outcomes." Paper read at the Building a Quality Work Force: Critical Literacy Conference, Columbus, Ohio, 24-26 September 1989.

Maxson, Judith. "Overview of Critical Literacy." Paper read at the Building a Quality Work Force: Critical Literacy Conference, Columbus, Ohio, 24-26 September 1989.

Mitchell, Stephen. "Insoluble Problems and Proximate Solutions." Paper read at the Building a Quality Work Force: An Overview Conference, San Antonio, Texas, 12-14 March 1989.

Palmer, J. *Community, Technical, and Junior Colleges: A Summary of Selected, National Data*. Washington, DC: American Association of Community and Junior Colleges, December 1987. (ERIC Document Reproduction Service No. ED 292 507)

Palmer, Jim. *How Do Community Colleges Serve Business and Industry? A Review of Issues Discussed in the Literature*. Washington, DC: American Association of Community and Junior Colleges, June 1990.

Parkinson, Joseph L. "Industrial Strategies for Building a Quality Work Force." Paper read at the Building a Quality Work Force: Institutional Strategies Conference, Boise, Idaho, 10-13 March 1990.

Sternberg, R.J. *Critical Thinking*. Washington, DC: National Institute of Education, 1986.

Washington, DC: SRI International, 1986.

SUPPLEMENTAL READINGS

Arand, Judith Utz, and Harding, Carol Gibb. "An Investigation into Problem Solving in Education: A Problem-Solving Curricular Framework." *Journal of Allied Health* 16, no. 1 (February 1987): 7-17.

Barton, Thomas E., et al. *High Technology Training at Greenville Technical College*. Greenville, SC: Greenville Technical College, [1984]. (ERIC Document Reproduction Service No. ED 242 380)

Berger, Gerard I., and Daugherty, Ronald D. *Challenges for Preparing the New Work Force for the Year 2000*. Salem, OR: Chemeketa Community College, [1988]. (ERIC Document Reproduction Service No. ED 310 817)

Bird, Michael D. "Helping Students Think and Read More Critically." *Journal of Reading* 32, no. 8 (May 1989): 743-745.

Blake, Larry J. "Up Front in Economic Development." *Community and Junior College Journal* 52, no. 3 (November 1981): 16-17.

Blake, Larry J. "Coming of Age." *Community and Junior College Journal* 51, no. 8 (May 1981): 26-29.

Boyle, M. Ross. "College/Business Marriage: Sensible Response to Hard Times." *Community and Junior College Journal* 54, no. 3 (November 1983): 15-17.

Campbell, Dale F. *Postsecondary Occupational Education: National Trends, Issues, and Potential Implications for Texas Public Community/Junior Colleges*. Paper presented to the Mid-Winter Conference of the Texas Public Community/Junior College Association, Presidents' Association (Austin, TX, February 1982). (ERIC Document Reproduction Service No. ED 214 591)

Cantor, Jeffrey A. *Exemplary Practices Linking Economic Development and Job Training*. Paper presented at a meeting of the Eastern Educational Research Association (Savanna, GA, February 25, 1989). (ERIC Document Reproduction Service No. ED 302 715)

Charner, Ivan, and Gold, Gerard G. "Building Effective Business/Higher Education Partnerships for Economic Development." *Community Services Catalyst* 17, no. 1 (Winter 1987): 20-23.

Customized On-site Resource Training Services (CORTS): A Partnership Program. North Ryde, Australia: Macquarie University, Special Education Centre, January 1981. (ERIC Document Reproduction Service No. ED 308 914)

Davenport, Lawrence F. "The Role of the Community College in Meeting America's Future Labor Force Needs." *Community, Technical, and Junior College Journal* 59, no. 4 (February-March 1989): 23-27.

Ellison, Nolen M. *Economic and Human Resource Development: Challenges of the 90s*. Paper presented at the National Issues in Higher Education Conference (Fort Worth, TX, September 12, 1983). (ERIC Document Reproduction Service No. ED 244 649)

Ellison, Nolen M. *Putting America Back to Work: Role of the Community College*. Paper presented at the National Conference of the League for Innovation in the Community College (Newport Beach, CA, October 10-12, 1983) (ERIC Document Reproduction Service No. ED 243 517)

Ellison, Nolen M. *BICCC: An Important Community College Initiative*. Paper presented at the Business Industry Coalition seminar sponsored by the Kansas Association of Community Colleges (Topeka, KS, January 24, 1983). (ERIC Document Reproduction Service No. ED 227 891)

Eskow, Seymour. "Putting America Back to Work: Phase II." *Community and Junior College Journal* 54, no. 3 (November 1983): 12-14.

Evans, Eileen B., and Supnick, Roberta. "Evaluating Evidence of Critical Thinking Skills." *Business Education Forum* 43, no. 6 (March 1989): 16-18.

Fidler, Timothy A. "Advancing Community College Impact through Business and Industry." *New Directions for Community Colleges* 10, no.2 (June 1982): 21-34.

Fields, Cheryl M. "Education 'Brokers' Are Helping 2-Year Colleges Train Workers to Fill Needs of Local Businesses." *Chronicle of Higher Education* 33, no. 26 (March 11, 1987): 30.

- Fields, Cheryl M. "Many Aggressive Community Colleges Focusing on Training Workers for Fast-Growing Fields." *Chronicle of Higher Education* 33, no. 24 (February 25, 1987): 21.
- Fulton, Rodney D. *Critical Thinking in Adulthood*. 1989. (ERIC Document Reproduction Service No. ED 320 015)
- Gollattscheck, James, et al. *Keeping America Working Project: Industry Training Inventory, 1986*. Washington, DC: American Association of Community and Junior Colleges and Annadale, VA: Association of Community College Trustees, 1986. (ERIC Document Reproduction Service No. ED 281 585)
- Garrison, Don C. "Keeping America Working: On Time, and Winning." *Community and Junior College Journal* 55, no. 7 (April 1985): 54-56.
- Giddings, Louise R. "Beyond E.D. Hirsh and Cultural Literacy: Thinking Skills for Cultural Awareness." *Community Review* 8, no. 2 (1988): 5-13.
- Governor's Commission on the Financing of Higher Education. Final Report*. Pennsylvania Governor's Commission on the Financing of Higher Education, April, 1985. (ERIC Document Reproduction Service No. ED 279 265)
- Griffin, W.A., Jr. *BIC (Business-Industry Council): A Concept Paper for Administrative Discussion*. Colby, KS: Colby Community College, March 1983. (ERIC Document Reproduction Service No. ED 229 068)
- Gray, Lois, and Davis, Walter. "Labor and Higher Education: Impetus to New Alliances." *New Directions for Experiential Learning* no. 10 (1980): 1-11.
- Hamm, Russell, and Tolle-Burger, Lynn. *Two-Year Colleges: Doing Business with Business. A Handbook for Colleges Planning to Serve Commerce and Industry*. Washington, DC: American Association of Community and Junior Colleges and Annadale, VA: Association of Community College Trustees, 1988. (ERIC Document Reproduction Service No. ED 300 088)
- Hanna, John, et al. *Vocational Training for Economic Development: A Report on the Business/Industry Relationships with the Kansas Community Colleges and Area Vocational-Technical Schools, 1987-88 Academic Year*. Topeka: Kansas State Department of Education, Division of Community Colleges and Vocational Education, February 1989. (ERIC Document Reproduction Service No. ED 303 228)
- Higher Order Thinking Skills: A Catalog of Products, Publications, and Services*. Research Triangle Park, NC: Southeastern Educational Improvement Laboratory, [1989]. (ERIC Document Reproduction Service No. ED 303 784)
- Huddleston, Kenneth, et al. *The Economic Development Opportunity. A Guide for Building VTAE District-Community Partnerships for Economic Development*. Appleton, WI: Fox Valley Technical Institute, [1983]. (ERIC Document Reproduction Service No. ED 229 582)

- Huddleston, Kenneth F. *The Efforts of Business to Improve Human Productivity and Quality of Work Life: Training Implications for Community and Technical Colleges*. Columbus: The Ohio State University, The National Center for Research in Vocational Education, June 1982. (ERIC Document Reproduction Service No. ED 217 149)
- Illinois Community Colleges Mean Business. Fiscal Year 1988 Economic Development Grants: Annual Report*. Springfield: Illinois Community College Board, November 1988. (ERIC Document Reproduction Service No. ED 304 167)
- Jarvis, Phillip S. "A National at Risk: The Economic Consequences of Neglecting Career Development." *Journal of Career Development* 16, no. 3 (Spring 1990): 157-171.
- Johnson County Business and Industry Training Needs*. Overland Park, KS: Johnson County Community College, Office of Business and Industry Liaison and Johnson County Community College, Office of Institutional Research, February 1983. (ERIC Document Reproduction Service No. ED 245 711)
- Just, David A., et al. *Tips on Developing Technical Training Partnerships*. Paper presented at the National Conference on Technical and Skills Training of the American Society for Training and Development (Indianapolis, IN, December 1, 1988). (ERIC Document Reproduction Service No. ED 301 686)
- Kapfer, Mark. *Making the Partnership Work through a Business and Industry Center*. Paper presented at the Annual Convention of the American Association of Community and Junior Colleges (68th, Las Vegas, NV, April 24-27, 1988). (ERIC Document Reproduction Service No. ED 293 601)
- Knox, Robert J., and Lorenzo, Albert L. "Service Wars": *The Race to Be the Best in Product Service*. Paper presented at the Annual National Convention of the American Association of Community and Junior Colleges (67th, Dallas, TX, April 22-25, 1987). (ERIC Document Reproduction Service No. ED 282 603)
- Lee, Howard D. *Thinking Skills and Coaching Strategies Workshop (Menomonie, WI, January 18-20, 1989). Final Report*. Stout and Menomonie: Wisconsin University, Center for Vocational, Technical, and Adult Education, June 1989. (ERIC Document Reproduction Service No. ED 321 077)
- Liston, Edward J., and Ward, Cynthia V. "The Greenhouse Effect." *Community and Junior College Journal* 55, no. 3 (November 1984): 20-23.
- McMullen, Harold G. *Community College Business and Industry Educational Partnerships: An Essential Industrial Development Linkage*. Middletown, VA: Lord Fairfax Community College, May 16, 1984. (ERIC Document Reproduction Service No. ED 244 709)
- McNett, Ian. *The Development Triangle: Community College Assistance for Economic Growth. Education-Economic Development Series, 6*. Washington, DC: Northeast-Midwest Institute, Center for Regional Policy, 1986. (ERIC Document Reproduction Service No. ED 289 528)

- Mohn, Meleese, ed. *"Primary Partners in Economic Development": Cooperation in High Technology--Community Colleges, Business and Industry, Labor and Government. Conference Proceedings* (Seattle, Washington, August 20, 1982). Seattle, WA: Seattle Community College, November 1982. (ERIC Document Reproduction Service No. ED 231 495)
- Mora, Peter L., and Giovannini, Eugene V. "Focus on the 90s: Clarifying the Role of Community Colleges in Economic Development." *Community Services Catalyst* 19, no. 4 (Fall 1989): 8-14.
- Mosier, Richard H. *A President's View of Cooperative Education*. Paper presented at the Annual Conference of the Cooperative Education Association (San Antonio, TX, April 3, 1990) (ERIC Document Reproduction Service No. ED 317 853)
- Palmer, Jim. *How Do Community Colleges Serve Business and Industry? A Review of Issues Discussed in the Literature*. Washington, DC: American Association of Community and Junior Colleges, June 1990. (ERIC Document Reproduction Service No. ED 319 443)
- Parsons, Michael H. *New Technology and the Human Response: The Issues Facing Vocational Education in the 1980s*. January 1984. (ERIC Document Reproduction Service No. ED 239 671)
- Peterson, John H. "Community College and Proprietary School Relationships within the Educational Marketplace." *New Directions for Community Colleges* 10, no. 3 (September 1982): 51-57.
- Productive America: Two-Year Colleges Unite to Improve Productivity in the Nation's Work Force. Executive Summary and Reports 1 and 2*. Washington, DC: American Association of Community and Junior Colleges and Council for Occupational Education, January 1990. (ERIC Document Reproduction Service No. ED 317 224)
- Putting America Back to Work: The Kellogg Leadership Initiative. A Report and Guidebook*. Washington, DC: American association of Community and Junior Colleges, March 1984. (ERIC Document Reproduction Service No. ED 245 738)
- Richter, Winston Boos, Jr., and Wahl, John C., eds. *Economic Development and the American Community College*. Gainesville: Florida University, Institute of Higher Education, 1987. (ERIC Document Reproduction Service No. ED 290 506)
- Sbaratta, Philip. "Educating the Postindustrial Workforce." *Community College Review* 14, no. 1 (Summer 1986): 16-21.
- Schlesinger, Mark A. "The Road to Teaching Thinking: A Rest Stop." *Journal of General Education* 36, no. 3 (1984): 182-196.
- Shulman, Carol Herrmstadt, ed. *Adults and the Changing Workplace. 1985 Year Book of the American Vocational Association*. Arlington, VA: American Vocational Association, Inc., 1984. (ERIC Document Reproduction Service No. ED 252 663)

- Smick, Regina A., and Crunkilton, John R. *Enabling Behaviors Exhibited by Selected Virginia Postsecondary Vocational Technical Instructors*. Paper presented at the American Vocational Association Convention (Orlando, FL, December 5, 1989). (ERIC Document Reproduction Service No. ED 315 609)
- Stark, Sheila. "Developing Critical and Creative Thinking through the Use of the Synectics Teaching Model." *Illinois Teacher of Home Economics* 30, no. 4 (March-April 1987): 154-156.
- Suchorski, Joan M. *Contract Training in Community Colleges*. Graduate seminar paper, University of Florida, December 1987. (ERIC Document Reproduction Service No. ED 291 425)
- Thom, Gordon A., ed. *Making Canada Productive: Creating New Partnerships. Selected Cases*. Toronto, Ontario: Association of Canadian Community Colleges, 1986. (ERIC Document Reproduction Service No. ED 279 360#)
- Thomas, Ruth G., and Litowitz, Len. *Vocational Education and Higher Order Thinking Skills: An Agenda for Inquiry*. St. Paul: Minnesota University, Minnesota Research and Development Center for Vocational Education, 1986. (ERIC Document Reproduction Service No. ED 279 845)
- Tyree, Lawrence Worley, and McConnell, Nancy Casner. *Linking Community Colleges with Economic Development in Florida*. ISHE Fellows Program Research Report No. 3, 1982. Tallahassee: Florida State University, Institute for Studies in Higher Education, 1982. (ERIC Document Reproduction Service No. ED 226 785)
- Useem, Elizabeth. *Education and High Technology Industry: The Case of Silicon Valley. Summary of Research Findings*. August 1981. (ERIC Document Reproduction Service No. ED 222 107)
- Waddell, Geneva. "Tips for Training a World-Class Work Force." *Community, Technical, and Junior College Journal* 60, no. 4 (February-March 1990): 21-27.
- Wilson, JoAnn. *A Study of the Relationship between Postsecondary Education and Economic Development in Selected States*. Phoenix: Arizona Commission for Postsecondary Education and Arizona State Department of Economic Planning and Development, September 1981. (ERIC Document Reproduction Service No. ED 215 649)
- Zeiss, P. Anthony. *Local Initiative for Economic Development*. April 1984. (ERIC Document Reproduction Service No. ED 243 508)

To order additional copies of this publication, refer to—

Title	Order No.	Price
<i>Managing Diversity: A Key to Building A Quality Work Force</i>	RD 271	\$ 4.75 (single copy)
		\$29.95 (package of 10)

Send order to:

Center on Education and Training for Employment
Publications Office
The Ohio State University
Columbus, Ohio 43210-1090



CENTER ON EDUCATION
AND TRAINING FOR EMPLOYMENT
THE OHIO STATE UNIVERSITY

1900 KENNY ROAD • COLUMBUS, OHIO 43210
Telephone (614) 292-4353 or (800) 848-4815

